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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/665,560

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Kent D. Parkins

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EXAMINER

NGUYEN, TRAN N

ART UNIT

PAPER NUMBER

3626

MAIL DATE

DELIVERY MODE

10/13/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/665,560	Applicant(s) PARKINS ET AL.	
	Examiner Tran Nguyen	Art Unit 3626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

As per the Office Action mailed 08/07/2008:

The objection to the amendment filed 05/16/2008 under 35 USC 132(a), the objection to the specification under 35 USC 112, first paragraph, and the rejection of claims 4, 19 under 35 USC 112, first paragraph and second paragraph are hereby withdrawn in view of Applicant's amendment to claim 4, and further in view of Applicant's cancellation of claim 19.

The rejection of claims 1-45 under 35 USC 101 is hereby withdrawn in part in view of Applicant's cancellation of claims 12-45. The remainder of this rejection with respect to claims 1-11 is hereby maintained in view of Applicant's failure to adequately traverse this rejection.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim(s) 1-11 is/are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

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As per claim 1, this claim recites a "system" comprising "an input interface of a computer".

As currently recited, the computer is not claimed. Only the "interface" is claimed.

Therefore, when interpreted in view of the specification and the level of ordinary skill in the art, this limitation may be reasonably interpreted to envelop software *per se*.

Additionally, "a set of rules" is data *per se*.

"a server on a hardware device" and "hardware storage" are tangible; however, the remaining software limitations have not been positively recited as being tangibly embodied on any hardware.

Therefore, claim 1 envelops some disembodied software *per se* structure not tangibly embodied on hardware.

As such, the claim is found to be directed towards nonstatutory subject matter.

All claims dependent thereon, namely claims 2-11, fail to remedy these deficiencies, and are therefore rejected for at least the same rationale above, and incorporated herein.

Additional clarification is requested.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim(s) 1-5, 7-11 is/are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson (5664109).

As per claim 1, Johnson teaches a computer system (Figure 1) capable of linking patient records (reads on “a dimensional enhanced data grouping”) (Figure 7), comprising:

(a) a document repository (reads on “an input interface”) capable of receiving a document containing thereon patient data as provided by a provider (reads on “source records”) (Figure 2), wherein the data is provided by a hospital, a lab, or an insurance company (column 4 line 41-46), wherein the document contains therein data capable of being linked to other existing data (reads on “factual” and “dimensional attributes”) (Figure 5, 7);

(b) a knowledge base (reads on “a set of rules”) capable of linking documents to patient data (reads on “detect relationships between data components”) (Figure 2 label 218, Figure 7);

(c) software (reads on “a data enhancement layer”) capable of communicating with the document repository and the knowledge base (Figure 2 label 214);

(d) wherein the software is capable of linking (reads on “a dimensional enhanced data grouping”) the document based on the knowledge base (Figure 3);

(e) wherein the link comprises the document and a plurality of links across metadata of the document (Figure 7);

(f) a database (reads on “a storage component”) capable of storing the link structure (Figure 7).

Johnson further teaches linking the document to existing patient data (reads on “causal and correlated relationship”, wherein the document are sorted using a patient ID (reads on “attribute, variable”) (Figure 7).

Johnson further teaches providing the data to an external user (reads on “transactional data store” and “datamarts”) (Figure 8).

As per claim 2, Johnson teaches that the link structure is based on:

- (a) document metadata (reads on “attributes”) (Figure 7 label 706);
- (b) document metadata (reads on “variables”) (Figure 7 label 706);
- (c) conditional linking with a certain degree of certainty (reads on “quantities”) (Figure 6 label 618).

As per claim 3, Johnson teaches that the knowledge base comprises rules as provided by subscribers (reads on “user-defined rules”) (column 8 line 8-16).

As per claim 4, Johnson teaches automated processing of documents based on the knowledge base (Figure 2).

As per claim 5, Johnson teaches a plurality of servers capable of processing and storing the link structure (Figure 1 label 116).

As per claim 7, Johnson teaches that the document comprises a patient identifier (reads on "data specific to... a patient"), a hospital identifier (reads on "data specific... to a provider") (Figure 5), a test result (line 9 column 18-19), and current medications (reads on "data specific to... an order") (Figure 5).

As per claim 8, Johnson teaches linking based on a subset of document metadata (reads on "a recombination... based on selected attributes") (Figure 7).

As per claim 9, Johnson teaches a plurality of other link structures (reads on "multiple extended dimensions") (Figure 7 label 714).

As per claims 10-11, Johnson teaches that the system is capable of processing structured data (reads on "hierarchical records") and unfielded data (reads on "multidimensional records") (column 6 line 59-62).

Response to Arguments

Applicant's arguments filed 02/09/2009 have been fully considered but they are not persuasive.

On page 14 Applicant argues:

Independent claim 1 has been amended herein to include the generation of “a dimensional enhanced data grouping...comprising at least one data component of the source records and at least one extended dimension reflecting at least one of a causal and correlated relationship to at least one data component for the source record data.” Applicants respectfully submit that the amendments submitted herein distinguish the claimed invention from the Johnson reference, which is directed to identifying and compiling records on a patient-by-patient basis. *See generally Johnson*. Johnson does not disclose a system that derives a causal relationship between data as currently claimed. Moreover, Johnson fails to teach or suggest at least one extended dimension comprises at least one attribute, variable, or quantity of a data component from the source record data. In contrast, Johnson discloses the rearrangement of patient data into “master patient record.” *See Johnson*, column 3, line 23. As such, Johnson fails to disclose the use of an extended dimension.

Johnson teaches linking a patient document with an existing data structure (Figure 7).

This structure is considered to be an “extended dimension” because there are other data tables cross-referenced with the document.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

To preserve Applicant's claim for priority, the specification as originally filed on 02/28/2003 in application 60498283 reads as follows (page 7-8):

[0025] There are at least two types of potential data groupings for extension and other purposes, namely hierarchical and multidimensional. As illustrated in Fig. 3, a hierarchical grouping 132 is a logical structure that uses ordered levels as a means of organizing data. This logical structure is made up of levels, parent and children. A level is a position in a hierarchy, a parent is a value at the level above a given value in a hierarchy and a child is the value at the level under a given value in a hierarchy. This hierarchical grouping scheme may be used to define data aggregation. For example, a general ledger account of "Net Income" may be made up of accounts that are allocated to net income. In order to accommodate this variety of data, users may need to be able to specify which sub-accounts "roll-up" into the main account. Thus, a general ledger summary account (e.g. total labor expense) would need to be a hierarchical account that is the parent to a series of children sub-accounts at different levels. This logical structure may then also be required to specify common costing allocation processes. According to the invention in one regard, data source 102 may be or include source records 118 which are organized in a hierarchical fashion.

[0026] As schematically illustrated in Fig. 4, enhanced data grouping 122 may among other things rely upon a further type of grouping, multidimensional grouping, in a separate logical structure which may be used to create or extend the new dimensions that are based on the values of a series of dimensions or other attributes. Multidimensional groupings may be arranged, for example, as a cube in 3-space in which individual columns, rows and layers reflect different attributes, variables or other quantities or objects. For example, the multidimensional group for the service line of "Cardiology" could be determined as the patients that have the

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encounter type of inpatient, age greater than 18, diagnosis codes 390.0 – 459.9, physician specialty of cardiologist and a particular nurse unit. This group may then be used to analyze different aggregations for this series of dimensions. According to the invention in another regard, the groupings generated in data enhancement layer 110 may facilitate the analysis of the entire group (represented by the whole cube), one side (A1a - C3a), one column (A1a - A3a), one row (A1a - C1a), one attribute (A1) or other aspects of the enhanced data grouping 122. An attribute can be thought of as an object of reference, either a dimension or fact (modality of reference). Additionally, multidimensional groupings in general and the enhanced data groupings 122 generated according to the invention in particular may have the ability to establish cross-relationships.

According to the specification, a plurality of data tables is specified. The system automatically generate a data structure comprising possible joins on the existing data tables.

When new data is entered, the system enters data in the corresponding data table. Additionally, the metadata structure is also automatically populated in anticipation of any future table joins.

The advantage of this feature would be that since the computational expensive joins are performed up front, when the user requires a data join, the metadata structure already exists. Therefore, response time is improved.

This feature is not taught in the closest available prior art of record (Johnson).

Based on preliminary searching, Examiner has indicated that this feature is not known in the medical record processing art. Final indication of allowance depends on the scope of the claims presented by Applicant.

Conclusion

Applicant is invited to contact Examiner to obtain suggestions on how to properly amend the claims to incorporate this feature.

The new ground(s) of rejection presented in this Office action, if any, was/were necessitated by Applicant's amendment. Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran (Ken) N. Nguyen whose telephone number is 571-270-1310. The examiner can normally be reached on Monday - Friday, 9:00 am - 5:00 pm Eastern.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, C. Luke Gilligan can be reached on 571-272-6770. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. N./

Examiner, Art Unit 3626

10/12/2009

/Robert Morgan/

Primary Examiner, Art Unit 3626